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Thank you for purchasing this Digital Video Camera. Please read this manual thoroughly and keep it in a safe place for future reference.

Disclaimer

Our company endeavors to ensure the contents of this manual are correct and up-to-date. However, we do not guarantee the accuracy of the contents of this manual. In case there is any discrepancy between this manual and the Digital Video Camera, please use this camera as the basis. We reserve the right to change any content or technical rule without prior notification. In addition, the manufacturer reserves the right to change technical specifications and package contents without prior notification.

Precautions

General precautions

- Please do not disassemble or use any way to modify the product by yourself, which may corrupt the product or cause electric shock.
- Keep the Digital Video Camera away from the reach of children or animals to prevent them from swallowing the batteries or small accessories.
- Stop using in case there is any kind of liquid or foreign object enters the Digital Video Camera. Turn off the Digital Video Camera and contact your dealer for help if it occurs.
- Do not operate the Digital Video Camera with wet hands; it may cause electric shock.
- Do not place or store the product in an environment of high temperature to avoid damage. The camera is designed for use in the temperature between 0°C and 40°C (32°F and 104°F).
- Do not store the product in the dusty/sandy/dirty place, or the area which is close to air condition/heater. Otherwise it may be ruined.
- Do not open the battery cover while recording the image. By doing so, the current image is unable to store, it may also corrupt other image data already stored in file.
- Please test this Digital Video Camera to ensure it is in normal operations before using it in any important occasion(such as wedding or overseas trip).
- This Digital Video Camera is unsuitable for filming any barcode.

Power Supply

- Please ensure using the provided battery or battery charger attached to this Digital Video Camera. Using any other type of battery or battery charger might damage the facility and render the guarantee void.
- Make sure the batteries are in the correct position. Error in the orientation of batteries might damage this product and result in fire.
- Please take out the batteries to avoid leaking of battery fluid or abnormal expansion if the Digital Video Camera is not in used for a long period of time.
- Please remove the crashed or damaged battery right away to avoid leaking of battery fluid or abnormal expansion.

1 Overall Introduction

Please read this chapter to understand the features and functions of this Digital Video Camera. This chapter also includes the description of system requirement, package contents, and hardware components.

1.1 System Requirements

This Digital Video Camera requires a unit of computer with the following specifications:

- Windows® 7 / Vista / XP / 2000 operating system or Mac OS 10.3 ~10.4
- A CPU of at least the equivalent of Intel® Pentium 4 2.8GHz I
- At least 2 GB of RAM
- Standard USB 2.0 connection port
- At least 64MB of display card

Note: USB 1.1 allows you to transmit files to the host, but using USB 2.0 connection port could increase the transmission speed far faster.

1.2 Features

This Digital Video Camera provides many features and functions including:

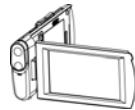
- High resolution pixel camera (Video: Maximum 1080P, photo: maximum 16 million pixels)
- Touch screen
- Time lapse
- 3 seconds Pre-recording
- Dual Streams
- Capturing a still image in video playback

In addition, this Digital Video Camera can be used as a USB disk or an SD card reader.

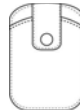
1.3 Accessories

This package should contain the following items. In case there is any missing or damaged item, please contact your dealer immediately.

① Digital video camera



② Pouch



③ Quick Guide



④ Software CD



⑤ HDMI cable



⑥ Video cable



⑦ USB cable



⑧ Lithium battery



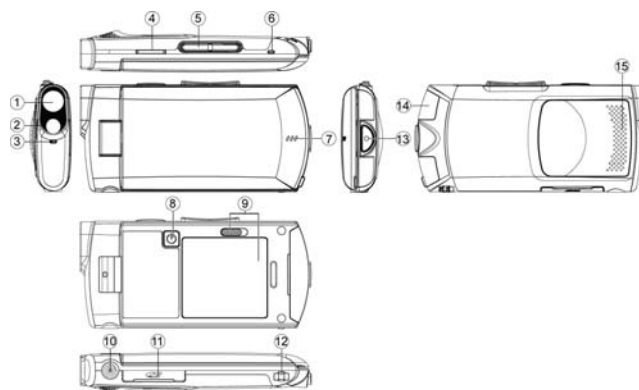
⑨ Adaptor



⑩ Wrist Strap



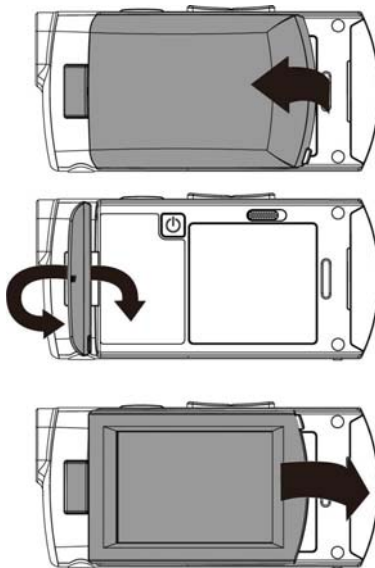
1.4 External View



1	Lens	10	Tripod Socket
2	LED torch	11	SD Card Slot
3	Self-timer Indicator	12	Hand Strap
4	Recording/ Shutter Button	13	Recording/ Shutter Button
5	Zoom Button	14	USB/HD/TV Output
6	Status LED	15	Speaker
7	Microphone	16	
8	Power Button	17	
9	Battery Door	18	

1.5 Adjusting LCD Display

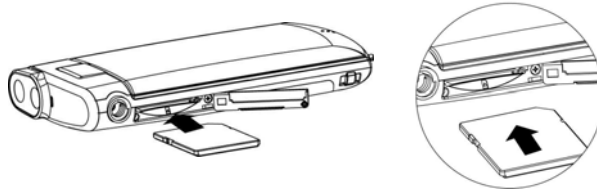
Before taking pictures or recording movie clips, please rotate according to the illustrations below.



2 Getting Started

2.1 Inserting SD Card

1. Insert the SD card gently into the slot. Make sure the copper contact faces upwards.



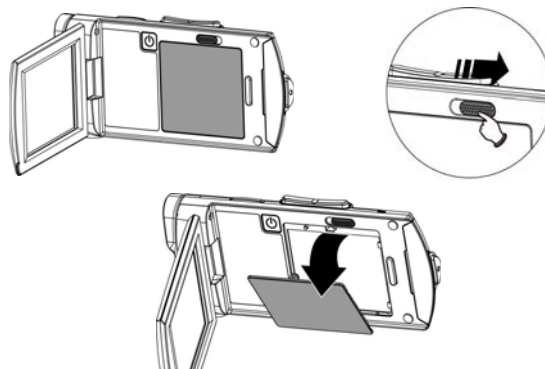
Note: Do not remove or insert SD cards when the power of the Digital Video Camera is on to avoid damaging files.

2.2 Loading the Battery

Please use only the battery provided or recommended by the manufacturer or dealer.

Note: Insert the battery correctly according to this description. Error in inserting battery could result in non-repairable damage to this Digital Video Camera..

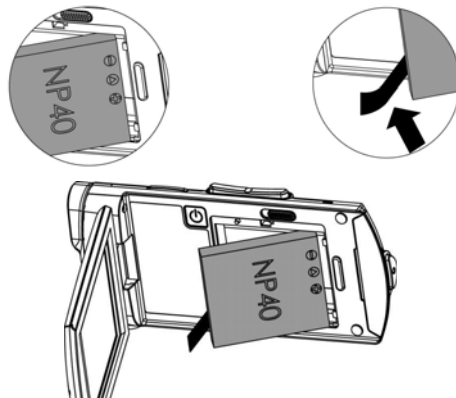
1. Open battery cover.



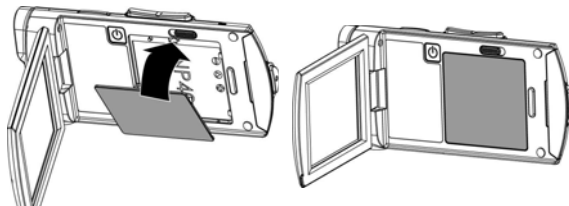
Battery Status Indicator:

	Battery full
	Battery half full
	Battery empty
	• Charging battery (A new battery should be charged at least 4 hours.) • The device power is supplied by DC input. (No batteries inside.)

2. Insert the battery according to the illustration.

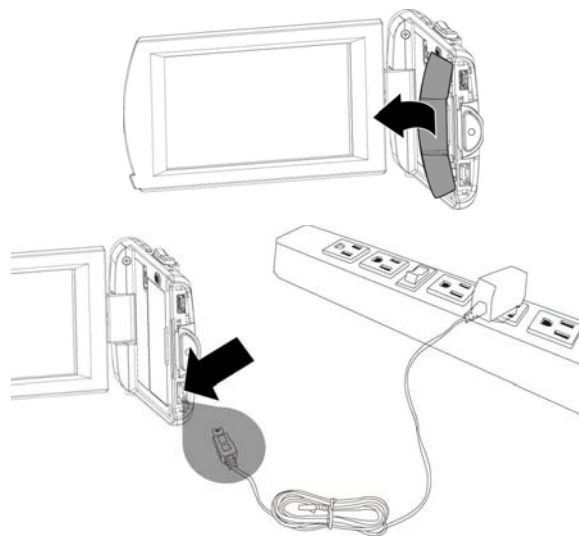


3. Close the battery cover.



2.3 Charging the Battery

You can use the adaptor attached to charge the lithium ion battery. Insert the lithium battery into the Digital Video Camera and connect to the cable of the adaptor.



2.4 The Gestures of Using the Touch Screen

2.4.1 Single touch

1. You can also touch hotkey to change settings as shown below (Take DV function as an example).

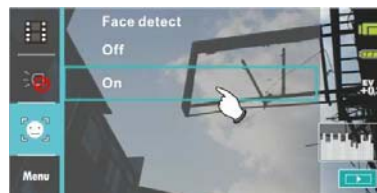
- Resolution setting



- LED light (On / Off)

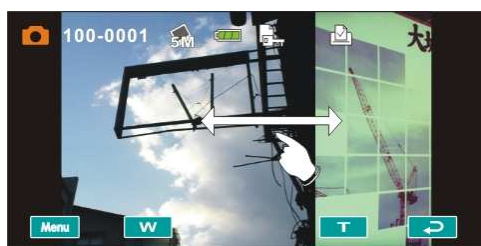


- Face detection



2.4.2 Slide

Slide right or left to view the previous file or the next file under the [Playback] Mode.



2.4.3 Rotate

Under [Playback] Mode, you can rotate the image by 90°step as shown below.



2.5 Buttons & Functions

Description	Button	Function
Power Button		To turn ON/OFF the Digital Video Camera.
Recording Button / Shutter Button		To take images / record videos or voices.
		
Zoom Button		This Digital Video Camera is equipped with 120X Digital Zoom: push the button Right (T) to pull in the distance of the subject, or push the button Left (W) to move away the distance from the object.

2.6 About LED Indicators

Below table describes the meaning of the camera LED indicators:

	Indicator Color	Definition
Power	Green	Turning power on.
Recording	Red blinking	Recording
Self-timer (Start self-timer function)	Red blinking	Start of Self-timer.

2.7 Initial Settings Before Use

2.7.1 Setting Date and Time

1. Power [On] the Digital Video Camera to set up the date and time for the first time. Set the date and time by moving up/down button or touch the screen to select.
2. Touch Up/Down icon to adjust the Year, Date and Time, and touch the **OK** icon to confirm.



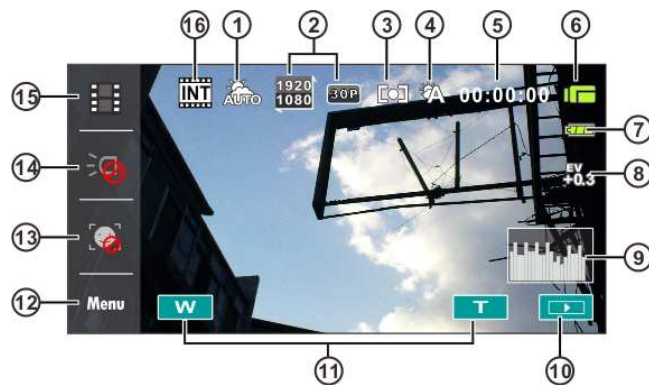
2.7.2 .Setting Language

1. It is automatic to move on to Language setting after setting Date/Time.
2. Touch the screen language icon to adjust the language and touch the **OK** to confirm the setting.



3 LCD Display Information

3.1 In DV Mode



1		Scene mode icon
2		Resolution icon
3		Metering mode
4		White balance icon
5		Remaining recording time icon
6		DV mode icon
7		Battery icon

8		Exposure compensation icon
9		Histogram icon
10		Playback button
11		Digital Zoom button
12		Menu button
13		Face selection
14		LED light On/Off
15		Resolution button
16		Memory Status indicator  : SD card indicator;  : Internal memory indicator (displayed when there is no SD card)

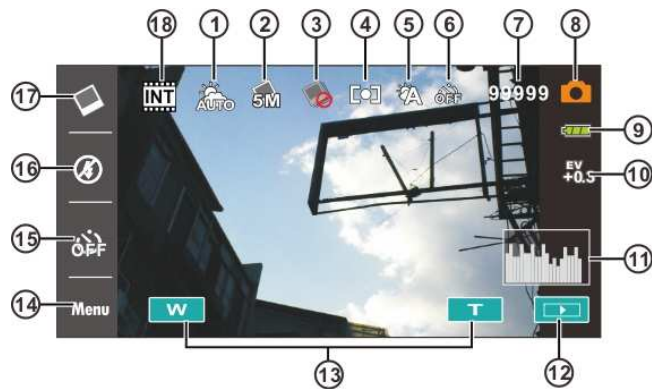
Note: When the Date/Time stamp function is turned on, the EIS(electronic image stabilizer) function will be unavailable .

3.2 In Voice Recording Mode



1	00:00:00	Recording time left icon
2		Voice Recording Mode icon
3		Battery icon
4		Playback button
5	Menu	Menu button
6		Memory Status indicator  : SD card indicator;  : Internal memory indicator (displayed when there is no SD card)

3.3 In DSC Mode



1		Scene Mode icon
2		Resolution icon
3		Continuous Shot mode
4		Metering mode
5		White balance icon
6		Self-timer icon
7		Number of pictures left

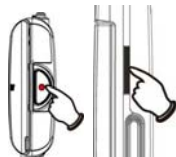
8		DSC Mode icon
9		Battery icon
10		EV compensation icon
11		Histogram icon
12		Playback button
13		Digital zoom button
14		Menu button
15		Self timer
16		Flashlight mode selection (off/auto/on)
17		Resolution button
16		Memory Status indicator  : SD card indicator;  : Internal memory indicator (displayed when there is no SD card)

4 Using the Camera

4.1 Shooting a Movie Clip

1. Power [On] the Digital Video Camera and set the [MODE] to the [DV] Mode.
2. Press the [Recording] Button to start/stop recording.
3. The Digital Video Camera will store the movie clip automatically.

Recording Button



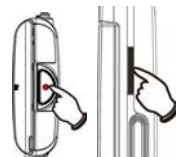
DV mode



4.2 Voice Recording Mode

1. Power [On] the Digital Video Camera, turn the [MODE] Button to switch to the [Voice Recording] Mode.
2. Press [Recording] Button to start/stop voice recording.

Recording Button



Voice recording mode



4.3 Movie Clip / Voice Clip Playback

1. In [Movie] / [Voice] Recording Mode, touch the screen icon () to display recently stored files on the LCD screen.

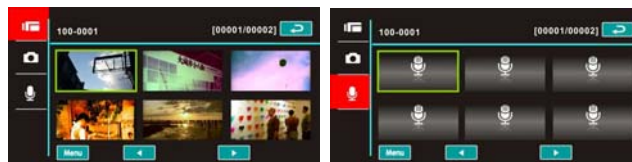


Movie Clip Playback Mode Icon

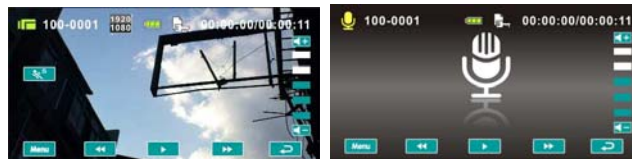


Voice Recording Playback Mode Icon

2. Touch the screen to select Playback of the file.



3. To pause the Playback of file, touch the screen icon (▶/⏸).



4. Touch [↶] icon to return to Movie/Voice Recording Mode.
5. Slow motion playback can be started by touching the [Slow Motion] Button [S] while a video is being played.



Touch   icon to adjust the forward and reverse playback speed when playing video.

		
Playback speed is as below when the Slow Motion is “ON”:		
		
Rewind	1/2X play	Forward
Rewind	1/4X play	Forward
Rewind	1/8X play	Forward
Rewind	1/16X play	Forward
Rewind	1/32X play	Forward
Rewind	1/64X play	Forward

6. It extracts and captures images from the video clip being played. This function can extract and capture images while a video clip is being played.

Press [Shutter] Button in replaying the movie clip. The Digital Video Camera will store images automatically.



Image Resolution			
NTSC		PAL	
	1920 x 1080 30p		1920 x 1080 25p
	1280 x 720 60p		1280 x 720 50p
	1280 x 720 30p		1280 x 720 25p
	848 x 480 60p		848 x 480 50p
	432 x 240 120p		432 x 240 100p

Note: The image size depends on Image Resolution.

4.4 Shooting / Playback Photos

4.4.1 Shooting Photos

1. Power [On] the Digital Video Camera and set the [Mode] to the [DSC] Mode.
2. Press [Shutter] Button to capture images which will be stored automatically.



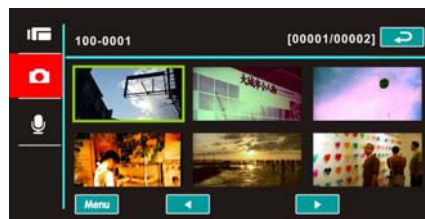
4.4.2 Playback Photos

1. In [DSC] Mode, touch the screen icon () to display the images on the LCD screen.

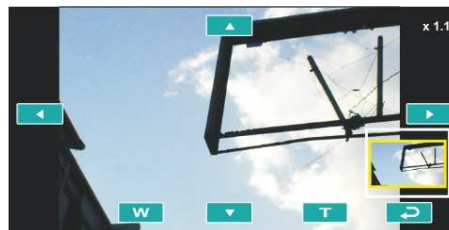


Playback photos icon

2. Touch the screen to playback the designate image.



3. Touch the screen (**T** or **W**) to magnify/narrow the image, then you can move the image up/down or left/right, or press [Return] icon () to return to the original image.

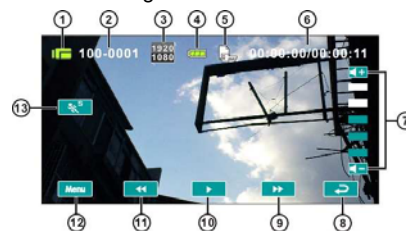


4. Touch () icon to return to [DSC] Mode.

5 LCD Display Information

5.1 DV Playback Mode

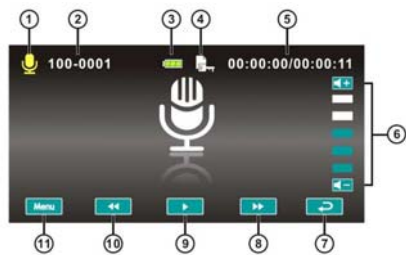
Please refer to the following table.



1		Recording Mode icon
2	000-0000	Folder and file number
3		Resolution icon
4		Battery status icon
5		File Protection icon
6	00:00:00	Length of each Movie Clip
7		Sound volume button
8		Return button
9		Fast forward playback button
10		Playback/Pause button
11		Fast rewind playback button
12		Menu button
13		Slow motion playback button

5.2 Voice Recording Playback Mode

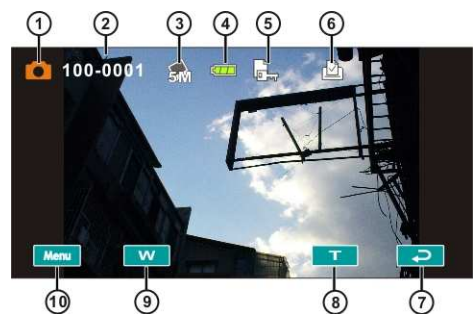
Please refer to the following table.



1		Voice Recording Mode icon
2	000-0000	Folder and file number
3		Battery status icon
4		File Protection icon
5	00:00:00	Length of each movie clip
6		Sound volume button
7		Return button
8		Fast forward playback button
9		Playback/Pause button
10		Fast rewind playback button
11		Menu button

5.3 DSC Playback Mode

Please refer to the following table.



1		DSC Mode icon
2	000-0000	Number of pictures left
3		Resolution icon
4		Battery status icon
5		File Protection icon
6		DPOF(Digital Print Order Format) icon
7		Return button
8		Zoom-In button
9		Zoom-Out button
10		Menu button

6 Menu Options

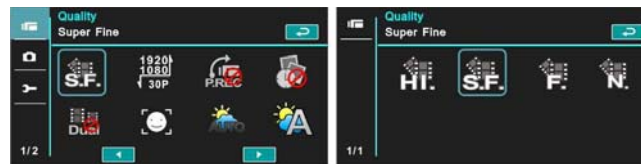
Please read this chapter to understand the settings and advanced operations of this Digital Video Camera.

6.1 Menus of Movie Clip Mode

Touch [MENU] icon to display menu options of movie clip under the [DV] mode.

6.1.1 Quality

1. Power [On] the Digital Video Camera and make sure it is in the [DV] mode.
2. Touch [MENU] icon and select [Quality] item.
3. Touch the screen to select [High Bit Rate], [Super Fine], [Fine] or [Normal].



6.1.2 Resolution

- 1. Power [On] the Digital Video Camera and make sure it is in the [DV] mode.
- 2. Touch [MENU] icon and select [Resolution] item.
- 3. Touch the screen to select resolution



NTSC	
1920 1080 30P	1920 x 1080 30p
1280 720 60P	1280 x 720 60p
1280 720 30P	1280 x 720 30p
848 480 60P	848 x 480 60p
432 240 120P	432 x 240 120p

PAL



PAL	
	1920 x 1080 25p
	1280 x 720 50p
	1280 x 720 25p
	848 x 480 50p
	432 x 240 100p

Note: The resolution will be different due to various TV Type settings. Please refer to chapter 6.5.1 “TV Type”.

6.1.3 Pre-recording

Starting this function will save the video 3 seconds before pressing the shutter. This feature is easy for you to control an event at the start without missing any important moment.

1. Touch [MENU] icon and select [Pre-recording] item.
2. Touch the screen to select [On] or [Off].



3. Starting this function starts the pre-recording. The DV Mode icon will appear as **P**. The video recorded 3 seconds before will be saved.

Recording Button



Pre-recording Mode





← Recording is on

4. To exit the pre-recording function, please enter the menu and turn off the pre-recording function. You will then be returned to the normal recording mode.



Note:

1. If starting the pre-recording function or pressing the [Recording] Button within 3 seconds of completing the pre-recording, then the Digital Video Camera will not record the complete content 3 seconds before pressing the button.
2. Please notice the following restrictions with pre-recording:
 - Pre-recording is not available with time lapse.
 - Pre-recording is not available under DSC Mode or Voice Recording Mode.

6.1.4 Time Lapse

The function is used to record an event of a very long duration, such as a flower blooming and withering, the process of butterfly metamorphosis, sunrise to sunset, etc. Long events can be shortened into videos with 1 min, 5 min or 30 min duration.

1. Power [On] the Digital Video Camera and make sure it is in the [DV] mode.
2. Touch [MENU] icon and select [Time lapse] item.
3. Touch the screen to select [Off], [1 minute], [5 minutes] or [30 minutes].



6.1.5 Dual streams

Starting this function will save the video in two files of different resolution. This is convenient for file sharing on the Internet.

1. Power [On] the Digital Video Camera and make sure it is in the [DV] mode.
2. Touch [MENU] icon and select [Dual streams] item.
3. Touch the screen to select [Off] or [On].



6.1.6 Face Detection

Starting this function will focus on the human faces to ensure the clarity of human faces in the images.

1. Power [On] the Digital Video Camera and make sure it is in the [DV] mode.
2. Touch [MENU] icon and select [Face detection] item.
3. Touch the screen to select [Off] or [On].



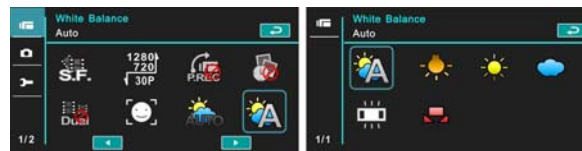
6.1.7 Scene Mode

1. Power [On] the Digital Video Camera and make sure it is in the [DV] mode.
2. Touch [MENU] icon and select [Scene Mode] item..
3. Touch the screen to select [Auto], [Night], [Sports], [Landscape], [Portrait], [Sunset], [Sand/Snow], [Flower], [Firework] or [Aquarium].



6.1.8 White Balance

1. Power [On] the Digital Video Camera and make sure it is in the [DV] mode.
2. Touch [MENU] icon and select [White Balance] item.
3. Touch the screen to select [Auto], [Incandescent], [Daylight], [Cloudy], [Fluorescent] or [Preset].



 Auto	Automatic white balance adjustment.
 Incandescent	The setting is suitable for Incandescent lamp lighting, or environments with dark light.
 Daylight	For daylight recording.
 Cloudy	For cloudy or shady environments.
 Fluorescent	For fluorescent lamp lighting, or environments with bright light.
 Preset	Preset on a plain white background for more realistic white balance value.

6.1.9 Effect

1. Power [On] the Digital Video Camera and make sure it is in the [DV] mode.
2. Touch[MENU] icon and select [Effect] item.
3. Touch the screen to select [Normal], [Art], [Sepia], [Negative], [B/W(Black/White)] or [Vivid].



 Normal	Recordings with natural color.
 Art	Recordings with oil painting color.
 Sepia	Recordings with sepia-toned color.
 Negative	Recordings with negative color.
 B/W	Recordings with black/white color.
 Vivid	Recordings with bright color.

6.1.10 Metering

1. Power [On] the Digital Video Camera and make sure it is in the [DV] mode.
2. Touch [MENU] icon and select [Metering] item.
3. Touch the screen to select [Center], [Average] or [Spot].

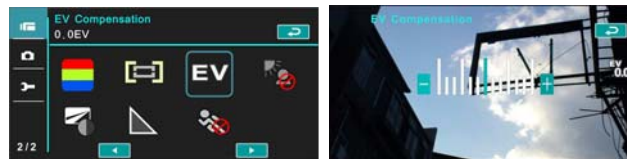


 Center	To preserve background details while letting lighting conditions at the center of the frame define exposure.
 Average	For exposure to be evenly distributed around the selected frame.
 Spot	To ensure correct exposure for the object even if the background is very bright or very dark.

6.1.11 EV Compensation

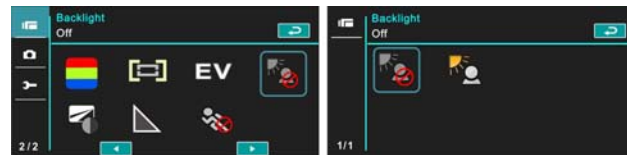
Use this function to adjust the value of EV compensation, which is ranged from -2.0EV to +2.0EV (at 0.3EV increment). The higher the EV value, the brighter the image will be.

1. Power [On] the Digital Video Camera and make sure it is in the [DV] mode.
2. Touch [MENU] icon and select the [EV Compensation] item.
3. Touch the screen to increase or decrease the value.



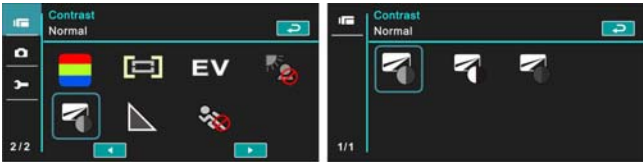
6.1.12 Backlight

1. Power [On] the Digital Video Camera and make sure it is in the [DV] mode.
2. Touch [MENU] icon and Touch the screen to select the [Backlight] item.
3. Touch the screen to select [Off] or [On].



6.1.13 Contrast

- 1. Power [On] the Digital Video Camera and make sure it is in the [DV] mode.
- 2. Touch [MENU] icon and touch the screen to select the [Contrast] item.
- 3. Touch the screen to select [Normal], [High] or [Low].



 Normal	For normal scenes.
 High	For brighter scenes.
 Low	For darker scenes.

6.1.14 Sharpness

1. Power [On] the Digital Video Camera and make sure it is in the [DV] mode.
2. Touch [MENU] icon and select the [Sharpness] item.
3. Touch the screen to select [Normal], [High] or [Low].



 Normal	For normal scenes.
 High	For sharper scenes.
 Low	For softer scenes.

6.1.15 Motion Detection

1. Power [On] the Digital Video Camera and make sure it is in the [DV] mode.
2. Touch [MENU] icon and select the [Motion Detection] item.
3. Touch the screen to select [Off] or [On]..



The following image will be shown when the motion detection function is on:



When there are objects moving in front of the lens, the Digital Video Camera will detect them, the green pillar starts to change, when the green pillar fills up the grid, recording starts automatically without the need to press [Recording] Button.



← Start recording

When the green pillar disappears, it means the object is still or has left the detecting range. At this time, the video recording stops automatically without the need to press [Recording] Button.

End recording →



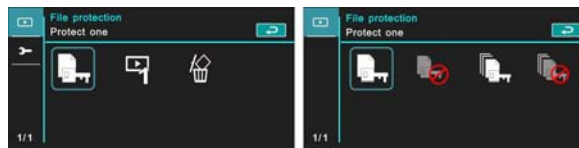
Note: The Motion Detection function is unavailable when the resolution is set at 432x240 (120/100fps)

6.2 Menu Options of Movie Clip / Voice Playback

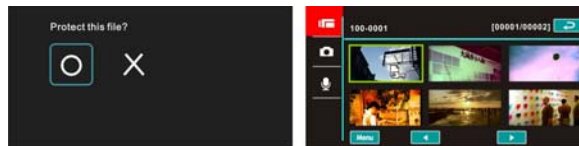
When in [Movie Clip]/ [Voice] playback mode, press the [MENU] Button to show the movie clip options menu.

6.2.1 File Protection

1. Power [On] the Digital Video Camera and make sure it is in the [Movie Clip] / [Voice] mode.
2. Touch [MENU] Button and touch the screen to select the [File Protection] item.
3. Touch the screen to select [Protect One], [Unprotect One], [protect All] or [Unprotect All].



4. The icon  represents the file is under protection.



	Protect One	Protect one file.
	Unprotect One	Unprotect one file.
	Protect All	Protect all files.
	Unprotect All	Unprotect all files.

Note : To unlock the file from Protect, repeat steps stated above. After the file is unlocked from Protect mode, the locked  icon will disappear

6.2.2 .Play Options

1. Power [On] the Digital Video Camera and make sure it is in the [Movie Clip] / [Voice] mode.
2. Touch [MENU] icon and select the [Play Options] item.
3. Touch the screen to select [Play one], [Play all], [Repeat one] or [Repeat all].



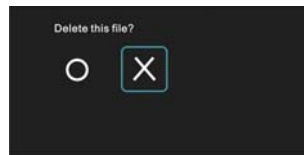
 Play One	To playback one file.
 Play All	To playback all files.
 Repeat One	To replay single file.
 Repeat All	To replay all files.

6.2.3 Delete

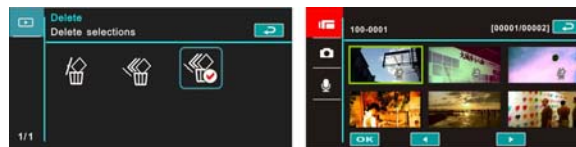
1. Power [On] the Digital Video Camera and make sure it is in the [Movie Clip] / [Voice] mode.
2. Select the file to be deleted, touch [MENU] icon and select the [Delete] item.
3. Touch the screen to select [Delete one], [Delete all] or [Delete selections]. Press [OK] Button to delete file(s).



4. Touch the screen to select [O] / [X] and press [OK] Button to delete file(s).



5. You can select the [Delete Selections] item to delete certain file.



	Delete One	Delete one file.
	Delete All	Delete all files.
	Delete Selections	Select the file and delete.

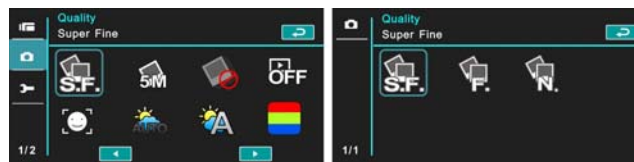
Note: The files cannot be recovered once deleted. Therefore, please make sure you have a backup file before delete. The protect files will not be able to delete. You must unlock the file before deleting it.

6.3 Menu Options of Camera Mode

During [DSC] Mode, touch [MENU] icon to display camera mode option menu.

6.3.1 Quality

1. Power [On] the Digital Video Camera and make sure it is in the [DSC] mode.
2. Touch [MENU] icon and select the [Quality] item.
3. Touch the screen to select [Super Fine], [Fine] or [Normal].



6.3.2 Photo Size

1. Power [On] the Digital Video Camera and make sure it is in the [DSC] mode.
2. Touch[MENU] icon and select the [Photo size] item.
3. Touch the screen to select [16M], [8M], [5M] or [3M].



 16M	4608 x 3456 pixels (Interpolation)
 8M	3200 x 2400 pixels (Interpolation)
 5M	2592 x 1944 pixels
 3M	2048 x 1536 pixels

6.3.3 Capture Mode

- 1. Power [On] the Digital Video Camera and make sure it is in the [DSC] mode.
- 2. Touch [MENU] icon and select the [Capture Mode] item.
- 3. Touch the screen to select [Normal], [Continue shot], [AEB mode], [Fast cont.] or [Super fast cont.].



 Normal	Shoot single photo.
 Continue shot	Shoot photos continually.
 AEB mode	Shoot three photos continually.(For brighter, normal, darker photo each)
 Fast Cont.	Shoot 10 photos continually.
 Super Fast Cont.	Shoot 30 photos continually.

6.3.4 Instant View

1. Power [On] the Digital Video Camera and make sure it is in the [DSC] mode.
2. Touch [MENU] icon and select the [Instant view] item.
3. Touch the screen to select [Off], [1 second], [3 seconds] or [5 seconds].



6.3.5 Face Detection

Starting this function will focus on the human faces to ensure the clarity of human faces in the images.

1. Power [On] the Digital Video Camera and make sure it is in the [DSC] mode.
2. Touch [MENU] icon and select the [Face Detection] item.
3. Touch the screen to select [Off] or [On].



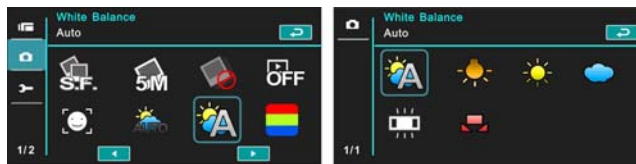
6.3.6 Scene Mode

1. Power [On] the Digital Video Camera and make sure it is in the [DSC] mode.
2. Touch [MENU] icon and select the [Scene Mode] item.
3. Touch the screen to select [Auto], [Night], [Sports], [Landscape], [Portrait], [Sunset], [Sand/Snow], [Flower], [Firework] or [Aquarium].



6.3.7 White Balance

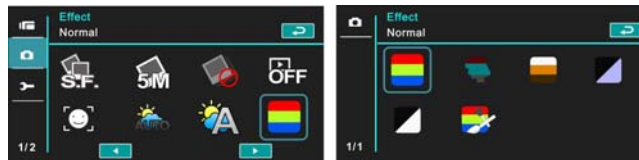
1. Power [On] the Digital Video Camera and make sure it is in the [DSC] mode.
2. Touch [MENU] icon and select the [White Balance] item.
3. Touch the screen to select [Auto], [Incandescent], [Daylight], [Cloudy], [Fluorescent] or [Preset].



 Auto	Automatic white balance adjustment.
 Incandescent	The setting is suitable for Incandescent lamp lighting, or environments with dark light.
 Daylight	For daylight recording.
 Cloudy	For cloudy or shady environments.
 Fluorescent	For fluorescent lamp lighting, or environments with bright light.
 Preset	Preset on a plain white background for more realistic white balance value.

6.3.8 Effect

1. Power [On] the Digital Video Camera and make sure it is in the [DSC] mode.
2. Touch [MENU] icon and select the [Effect] item.
3. Touch the screen to select [Normal], [Art], [Sepia], [Negative], [B/W(Black/White)] or [Vivid].



 Normal	Images with nature color.
 Art	Images with oil painting color.
 Sepia	Images with sepia-toned color.
 Negative	Images with negative color.
 B/W	Images with black/white color.
 Vivid	Images with bright color.

6.3.9 Metering

1. Power [On] the Digital Video Camera and make sure it is in the [DSC] mode.
2. Touch [MENU] icon and select the [Metering] item.
3. Touch the screen to select [Center], [Average] or [Spot].



 Center	To preserve background details while letting lighting conditions at the center of the frame define exposure.
 Average	For exposure to be evenly distributed around the selected frame.
 Spot	To ensure correct exposure for the object even if the background is very bright or very dark.

6.3.10 AE ISO

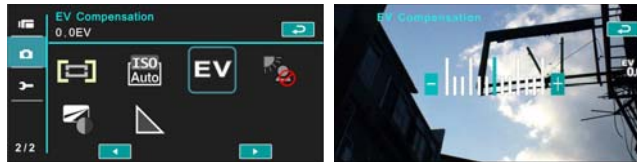
1. Power [On] the Digital Video Camera and make sure it is in the [DSC] mode.
2. Touch [MENU] icon and select the [AE ISO] item.
3. Touch the screen to select [ISO Auto], [ISO 100], [ISO 200], [ISO 400], [ISO 800], [ISO 1600], [ISO 3200] or [ISO 6400].



6.3.11 EV Compensation

Use this function to adjust the value of EV compensation, which is ranged from -2.0EV to +2.0EV (at 0.3EV increment). The higher the EV value, the brighter the image will be.

1. Power [On] the Digital Video Camera and make sure it is in the [DSC] mode.
2. Touch [MENU] icon and select the [EV Compensation] item.
3. Touch the screen to increase or decrease the value.



6.3.12 Backlight

1. Power [On] the Digital Video Camera and make sure it is in the [DSC] mode.
2. Touch [MENU] icon and select the [Backlight] item.
3. Touch the screen to select [Off] or [On].



6.3.13 Contrast

1. Power [On] the Digital Video Camera and make sure it is in the [DSC] mode.
2. Touch [MENU] icon and select the [Contrast] item.
3. Touch the screen to select [Normal], [High] or [Low].



 Normal	Images with normal scenes.
 High	Images with brighter scenes.
 Low	Images with darker scenes.

6.3.14 Sharpness

1. Power [On] the Digital Video Camera and make sure it is in the [DSC] mode.
2. Touch [MENU] icon and select the [Sharpness] item.
3. Touch the screen to select [Normal], [High] or [Low].



 Normal	Images with normal scenes.
 High	Images with brighter scenes.
 Low	Images with darker scenes.

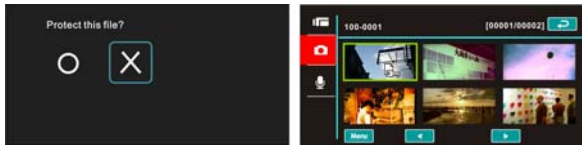
6.4 Menu Options of Photo Playback

6.4.1 File Protection

1. Power [On] the Digital Video Camera and make sure it is in the [Playback] mode.
2. Touch [MENU] icon and touch the screen to select the [File Protection] item.



3. The locked icon  will be shown to indicate the file is under protection.

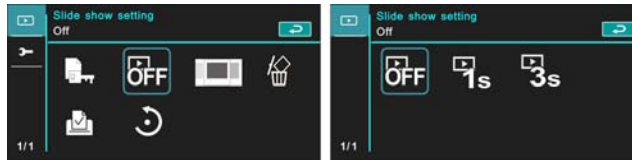


 Protect One	Protect one file.
 Unprotect One	Unprotect one file.
 Protect All	Protect all files.
 Unprotect All	Unprotect all files.

Note: Repeat above-mentioned steps to unlock the file. When the file is unlocked, the locked icon  will disappear.

6.4.2 Slide Show Setting

1. Power [On] the Digital Video Camera and make sure it is in the [Playback] mode.
2. Touch [MENU] icon and select the [Slide Show Setting] item.
3. Touch the screen to select [Off], [1 second] or [3 seconds].



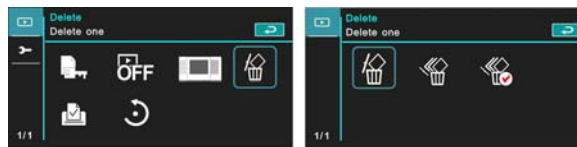
6.4.3 Slide Show Effect

1. Power [On] the Digital Video Camera and make sure it is in the [Playback] mode.
2. Touch [MENU] icon and select the [Slide Show Effect] item.
3. Touch the screen to select [Fading] or [Flying].

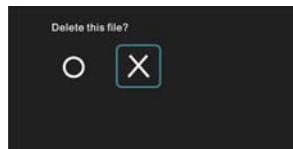


6.4.4 Delete

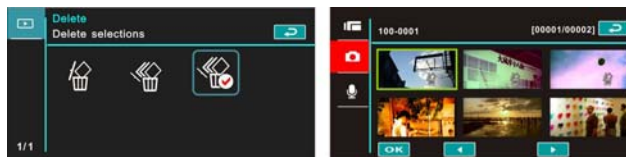
1. Power [On] the Digital Video Camera and make sure it is in the [Playback] mode.
2. Select the file to be deleted, Touch the [MENU] icon and select the [Delete] item .
3. Touch the screen to select [Delete one], [Delete all] or [Delete selections].



4. Touch the screen to select [O] or [X] to delete file(s).



5. You can select [Delete Selections] to delete certain file.



	Delete One	Delete one file.
	Delete All	Delete all files.
	Delete Selections	Choose the file and delete.

Note: The files cannot be recovered once deleted. Therefore, please make sure you have a backup file before delete. The protect files will not be able to delete. You must unlock the file before deleting the protected file.

6.4.5 DPOF

Use DPOF(Digital Print Order Format) to mark the printing information stored in the memory card.

1. Power [On] the Digital Video Camera and make sure it is in the [Playback] mode.
2. Touch [MENU] icon and select the [DPOF] item.
3. Touch the screen to select [DPOF One], [DPOF All], [Reset One] or [Reset All]. The DPOF icon  will appear to indicate the file is in order for printing.



Notes:
1. A memory card is necessary for using DPOF function.
2. All videos/pictures are in order for printing after setting DPOF.

6.4.6 Rotate

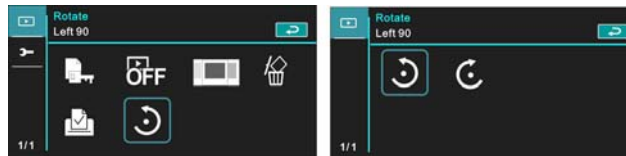
1. Power [On] the Digital Video Camera and make sure it is in the [Playback] mode.
2. Touch the screen to select the desired file.



3. Touch the screen to select [Menu].



4. Touch the screen to select [Left 90] or [Right 90]. The image will rotate left/right by 90 degrees.



6.5 Setting Menu

Setting Menu can be applied on all kinds of the Digital Video Camera settings.

6.5.1 TV Type

1. Power [On] the Digital Video Camera and enter the [Menu] page by touching [Menu] icon when the Digital Video Camera is at the shooting interface.
2. Touch the screen to select “Setting”.
3. Touch the screen to select the [TV type] item.
4. Touch the screen to select [NTSC] or [PAL].

NTSC



PAL



Note: The video resolution will be different due to various TV Type settings.

Setting reference of TV type	
NTSC NTSC	America, Canada, Japan, Korea, Mexico, Taiwan
PAL PAL	Australia, Austria, Belgium, China, Denmark, Finland, Germany, UK, Italy, Kuwait, Malaysia, New Zealand, Singapore, Spain, Sweden, Switzerland, Thailand, Norway

6.5.2 File Number (Default: Serial)

1. Power [On] the Digital Video Camera and enter the [Menu] page by touching [Menu] icon when the Digital Video Camera is at the shooting interface.
2. Touch the screen to select “Setting”.
3. Touch the screen to select the [File Number] item.
4. Touch the screen to select [Serial] or [Reset].



Notes:

1. The file number will start from 0001 when setting to [Reset].
2. When setting to [Serial], the stored files will be in serial numbers.

6.5.3 Date / Time

Please refer to the chapter 2.7.1 “Setting Date/Time”.

6.5.4 Format

Use this function to format the memory card / built-in memory.

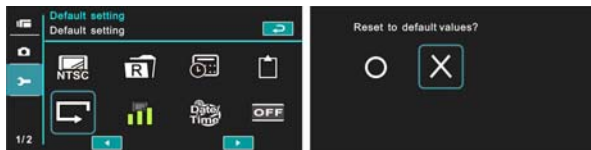
1. Power [On] the Digital Video Camera and enter the [Menu] page by touching [Menu] icon when the Digital Video Camera is at the shooting interface.
2. Touch the screen to select "Setting".
3. Touch the screen to select the [Format] item.
4. Touch the screen to select [O] or [X].



6.5.5 Default Setting

Use this function to reset from all settings to default settings.

1. Power [On] the Digital Video Camera and enter the [Menu] page by touching [Menu] icon when the Digital Video Camera is at the shooting interface.
2. Touch the screen to select "Setting".
3. Touch the screen to select the [Default setting] item.
4. Touch the screen to select [O] or [X].



6.5.6 LCD Brightness

1. Power [On] the Digital Video Camera and enter the [Menu] page by touching [Menu] icon when the Digital Video Camera is at the shooting interface.
2. Touch the screen to select “Setting”.
3. Touch the screen to select the [LCD Brightness] item.
4. Touch the screen to select [Low], [Median] or [High].



6.5.7 Date/Time Stamp

This function is to stamp date/time on photos.

1. Power [On] the Digital Video Camera and enter the [Menu] page by touching [Menu] icon when the Digital Video Camera is at the shooting interface.
2. Touch the screen to select “Setting”.
3. Touch the screen to select the [Date/Time stamp] item.
4. Touch the screen to select [Off], [Date] or [Date/Time].



6.5.8 Auto Power Off

This function is to power off the Digital Video Camera to save energy after it is not in use for several minutes.

1. Power [On] the Digital Video Camera and enter the [Menu] page by touching [Menu] icon when the Digital Video Camera is at the shooting interface.
2. Touch the screen to select “Setting”.
3. Touch the screen to select the [Auto Power Off] item.
4. Touch the screen to select [Off], [3 minutes] or [5 minutes].



6.5.9 Language

Please refer to chapter 2.7.2 “Setting Language.”

1. Power [On] the Digital Video Camera and enter the [Menu] page by touching [Menu] icon when the Digital Video Camera is at the shooting interface.
2. Touch the screen to select “Setting”.
3. Touch the screen to select the [Language] item



4. Touch the screen to select the following languages: English, Deutsch, French, Spanish, Italian, Japanese, Portuguese, Traditional Chinese, Simplified Chinese, Turkish, Russian, Thai, Arabic, and Korean.



6.5.10 Flicker

Use this setting to adjust the frequency system which corresponds to your local area.

- 1. Power [On] the Digital Video Camera and enter the [Menu] page by touching [Menu] icon when the Digital Video Camera is at the shooting interface.
- 2. Touch the screen to select “Setting”.
- 3. Touch the screen to select the [Flicker] item.
- 4. Touch the screen to select [Auto], [60HZ] or [50HZ].



Reference of frequency setting	
50HZ 50HZ	UK, Germany, Spain, Italy, France, Netherlands, Portugal, Russia, China, Japan
60HZ 60HZ	USA, Taiwan, Korea, Japan

6.5.11 Information

This function is to show information on the LCD screen to help you taking better photos/movie clips.

1. Power [On] the Digital Video Camera and enter the [Menu] page by touching [Menu] icon when the Digital Video Camera is at the shooting interface.
2. Touch the screen to select "Setting".
3. Touch the screen to select the [Information] item.
4. Touch the screen to select [Normal], [Histogram] or [Off].



6.5.12 Sound

Use this function to adjust the sound volume.

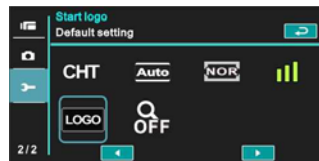
1. Power [On] the Digital Video Camera and enter the [Menu] page by touching [Menu] icon when the Digital Video Camera is at the shooting interface
2. Touch the screen to select "Setting".
3. .Touch the screen select the [Sound] item.
4. Touch the screen to select [Off], [Low], [Median] or [High].



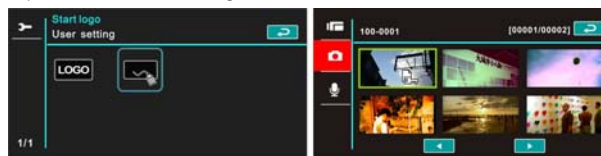
6.5.13 Start Logo

This function sets up the LCD screen when the Digital Video Camera is turned on.

1. Power [On] the Digital Video Camera and enter the [Menu] page by touching [Menu] icon when the Digital Video Camera is at the shooting interface.
2. Touch the screen to select "Setting".
3. Touch the screen to select the [Start Logo] item.



4. Touch the screen to select [User setting] Then, you can select a photo as the Start Logo.



5. Turn off then turn on the machine, Digital Video Camera will use the photo you set up as the Start Logo.
6. If you want to cancel the Start Logo you have set up, then select [Default Setting] after you entered the Start Logo selection, the original Start Logo will be restored.



6.5.14 Digital Zoom

This feature starts the digital zoom function.

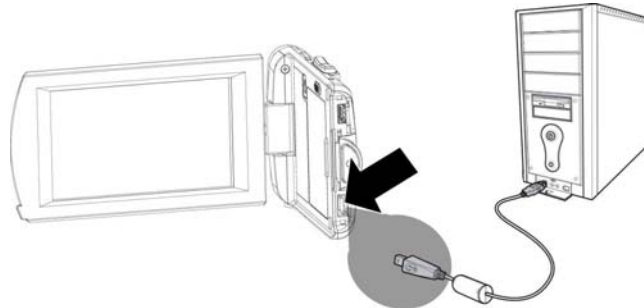
1. Power [On] the Digital Video Camera and enter the [Menu] page by touching [Menu] icon when the Digital Video Camera is at the shooting interface.
2. Touch the screen to select "Setting".
3. Touch the screen to select the [Digital Zoom] item.
4. Touch the screen to select [Off], [x10] or [Maximum].



7 PC and TV Connection

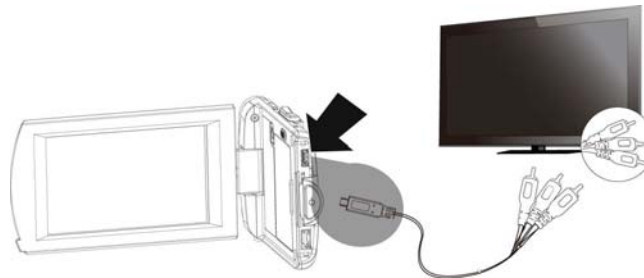
7.1 Connecting to the Computer

As shown below, use the provided USB cable and connect the Digital Video Camera to a PC for file transmission.



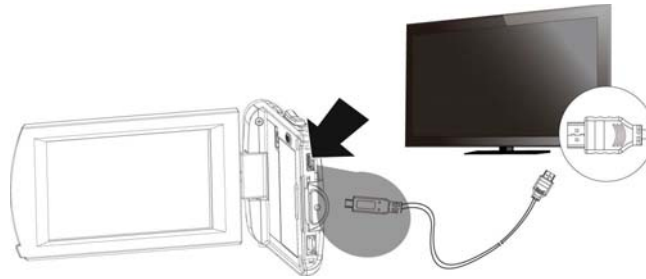
7.2 Connecting to the Standard TV

As shown below, use the provided video cable and connect the Digital Video Camera to the standard TV.



7.3 Connecting to the HD TV

As shown below, use the provided HDMI cable to connect the Digital Video Camera to a HD TV for high resolution picture display.



8 Installing the Software

1. Place the attached CD ROM into the CD player.
2. If the CD does not execute automatically, please use Windows File Manager to execute the **Install_CD.exe** file in the CD.

The following screen will be shown up.



3. Press the [Menu] item to start the installation process according to the instructions on-screen.

9 Editing Software



ArcSoft Total Media Extreme(TME)™ manages your media for you, and gives you tons of fun and exciting ways to create and share projects featuring your photo, video, and music files. Edit, enhance and add creative effects to your photos. You can

- Create your own movies or photo slide shows complete with soundtrack.
- Upload your files easily to YouTube™!
- Or share them through simple email attachments or popular photo printing.
- You can go to <http://www.arcsoft.com/> for more information.

10 Appendix

Specifications

Image sensor	1/3.2 inch. 5 Mega Pixels CMOS sensor		
Effective pixels	5 Mega pixel (2592X1944)		
Storage media	Support SD card and SDHC card (Above Class 4)		
ISO Equipment	Auto/100/200/400/800/1600/3200/6400		
Color effect	Normal/BW/Sepia/Art/Negative/Vivid		
Lens	FF lens F/2.8, f=4.27mm		
Focus range	80cm~ Infinity		
Still image	Format: JPEG (DPOF, EXIF) Resolution: 16MP(Interpolation), 8M (Interpolation), 5M, 3M		
Movie Clip (fps)	Resolution	NTSC	PAL
	Full HD (1920 x 1080)	30fps	25fps
	HD (1280x720)	60fps	50fps
	HD (1280x720)	30fps	25fps
	WVGA (848x480)	60fps	50fps
	WEB (432x240)	120fps	100fps
	Format: H.264 (MOV)		
Audio	Format: ADPCM (WAV)		
Zoom	Digital Zoom: DSC 60x; Video 120x (Maximum)		

	Playback:10x digital zoom
TFT screen	3.0" Touch Panel screen(16:9)
LED Flashlight	Range:1m Recording: On / Off Shooting: off, auto, on
White balance	Auto / Daylight / Cloudy / Incandescent / Fluorescent / Preset
Exposure	-2.0 EV ~ +2.0 EV (1/3 step)
Self-Timer	Off, 2 seconds, 10 seconds
Interface	Camera: USB 2.0 (high-speed) Mass storage High disk: USB 2.0(high-speed), HDMI, USB DC IN
TV output	NTSC/PAL
Shutter	Electronic shutter Auto:1/2 ~1/4000 sec, Night: 2~1/4000 sec.
Auto Power Off	Off, 3 minutes, 5 minutes
Power Source	NP-40 (700mAh) Lithium battery
Dimensions	114 (L) x 56 (H) x 20 (W) mm
Weight	About 86g (without battery)

Troubleshooting

Problem	Possible Cause	Solution
Can not turn on the power of Digital Video Camera.	1. Batteries are not inserted correctly. 2. Batteries are dead.	1. Please insert batteries correctly. 2. Replace the batteries.
Camera shutdown suddenly.	1. Power saving mode already activated. 2. Batteries are dead.	1. Please turn on the power again. 2. Replace the batteries.
Pictures are not stored in the memory.	Power off before storing the images.	Please change to new batteries when the battery indicator turns to red color.
Camera shutdown when using Self-timer shooting picture.	Batteries in camera are dead.	Change new batteries.
Images are out of focus	Object exceeds the range of focus.	Refocus by zooming in/out.
Unable to use the external memory card.	1. Memory card is Protected. 2. Memory card contains non-DCF images taken by other cameras.	1. Unlock the memory card. 2. Reformat the memory card. Please make sure to backup the file before reformatting memory card.
All Buttons can not work or camera hangs.	Short circuit occurred when connecting the camera to other device.	Take out batteries in the camera and re-insert again.

Technical Support

For technical support issues please visit our website at www.polaroid.com. For further assistance, you can also call our technical support department toll free at 877-408-0033, or for e-mail support, please contact us at polaroid@sakar.com.

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Warranty Card

This warranty covers the original consumer purchaser only and is not transferable.

This warranty covers products that fail to function properly **UNDER NORMAL USAGE**, due to defects in material or workmanship. Your product will be repaired or replaced at no charge for parts or labor for a period of one year.

What Is Not Covered by Warranty

Damages or malfunctions not resulting from defects in material or workmanship and damages or malfunctions from other than normal use, including but limited to, repair by unauthorized parties, tampering, modification or accident.

To obtain Warranty Service and Troubleshooting information:

Call 877-408-0033 or Visit our website at www.polaroid.com.

To receive Warranty service along with the name and address of an authorized product service center, the original consumer purchaser must contact us for problem determination and service procedures. Proof of purchase in the form of a bill of sale or receipted invoice, evidencing that the Product is within the applicable Warranty period(s), **MUST** be presented in order to obtain the requested service. It is your responsibility to properly package and send any defective products along with a dated copy of proof of purchase, a written explanation of the problem, and a valid return address to the authorized service center at your expense. Do not include any other items or accessories with the defective product. Any products received by the authorized service center that are not covered by warranty will be returned unrepared.

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responsible stewards of the environment, and to avoid violating established laws, you should properly dispose of this product in compliance with all applicable regulations, directives or other governances in the area where you reside. Please check with local authorities or the retailer where you purchased this product to determine a location where you can appropriately dispose of the product.

You may also go to www.polaroid.com and reference Social Responsibility to learn more about the specific laws in your area and to locate a collection facility near your home.

If your electronic device has internal memory on which personal or other confidential data may be stored, you may want to perform a data sanitization process before you dispose of your device to assure another party cannot access your personal data. Data sanitization varies by the type of product and its software, and you may want to research the best sanitization process for your device before disposal. You may also check with your local recycling facility to determine their data sanitization procedures during the recycling process.

This device complies with the part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution: changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with instructions may cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on. The user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or experienced radio/ TV technician for help.